



USAID | **LEBANON**
FROM THE AMERICAN PEOPLE

LITANI RIVER BASIN MANAGEMENT SUPPORT PROGRAM

SUPPORT TO COLLABORATIVE ACTIVITIES

NOVEMBER 2013

This report was produced for review by the United States Agency for International Development (USAID). It was prepared by International Resources Group (IRG) under Contract EPP-I-00-04-00024-00 order no 7.

LITANI RIVER BASIN MANAGEMENT SUPPORT PROGRAM

SUPPORT TO COLLABORATIVE ACTIVITIES

Contract No.: EPP-I-00-04-00024-00 order no 7.

NOVEMBER 2013

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government

TABLE OF CONTENTS

EXECUTIVE SUMMARY

I.	INTRODUCTION	I
1.1.	Authorization.....	I
1.2.	Program Objectives	I
1.3.	Program Components.....	I
1.4.	Purpose and Contents of the Report.....	2
2.	RATIONALE FOR COLLABORATIVE ACTIVITIES	3
2.1.	Causes of Water Issues	3
2.2.	Benefits from Participation.....	3
2.3.	Definition of Collaborative Activities	4
	2.3.1. Concept	4
	2.3.2. Examples	4
3.	MOBILIZATION, DESIGN AND PLANNING	6
3.1.	Context.....	6
3.2.	Mobilization.....	6
3.3.	Design and planning.....	6
4.	IMPLEMENTATION	9
4.1.	Support from LRBMS.....	9
4.2.	Actual implementation	9
4.3.	Ownership and Retention Rate	9
4.4.	Credits to USAID and Branding.....	10
5.	FOLLOW-UP	I

EXECUTIVE SUMMARY

PROGRAM BACKGROUND

The LRMBS Program is a four-year program to improve water management in the Litani River Basin in the Bekaa. It is undertaken by IRG, in cooperation with LRA, and is funded by USAID. The program began in October 2009 and has four components: Building institutional capacity, Water monitoring, Irrigation management and Risk management.

RATIONALE FOR COLLABORATIVE ACTIVITIES

Most water issues are due to improper water use behaviors by farmers, residents, factories and others who pollute and waste water resources. How can one hope to solve the water issue without involving them?

Water users' awareness and ownership is necessary to achieve lasting changes since responsible and informed users better understand the consequences of their actions and thus can adopt better water use practices. The adoption of participatory processes is essential for effective water management, in order to:

- Involve residents, farmers, factories as actors solving water issues by adopting sound water use practices;
- Ensure proper funding as informed water users more easily accept paying water and wastewater fees;
- Bring together central agencies, local authorities, and water user representatives to plan and decide collaboratively;
- Clarify roles and responsibilities, and build the capacity of all parties; and
- Ensure buy-in and commitment to common decisions; and monitor implementation to improve performance.

The idea of collaborative activities is to involve passive residents and water users in the design, planning, and implementation of concrete local scale activities solving water issues, and thus turn them into informed actors through this “learning by doing” approach.

MOBILIZATION, DESIGN AND PLANNING

Initial meetings were held in about 20 municipalities in the upper Litani River Basin, first with the Municipality Board to explain the concept of water collaborative activities. Based on interest, follow-up meetings were held to form water committee with leading local residents in Ablah, Anjar, Baalbeck, Bar Elias, Kfarzabad, Joub Jenine, Marj, Qaraoun and Zahle.

The nine committees were trained in the design and planning of activities and eight submitted actual action plans:

Municipality	Theme	Proposed activity	Decision
Anjar	River cleanup and collection of fertilizer bags	Cleanup along the banks of the Ghzayyel	Approved
Baalbeck	River cleanup	Cleanup on the Ras Al Ain River and tree planting	Approved
Bar Elias	River cleanup	Cleanup along the banks of the Ghzayyel	Approved
Joub Jenine	Water use efficiency	Use of geotextile in municipal gardens to reduce significantly water needs	Approved
Kfarzabad	River cleanup	Cleanup on the Faour River and tree planting	Approved
Marj	River cleanup	Cleanup along the banks of the Ghzayyel	Approved
Qaraoun	1-Water Supply	Overflow controls on roof cisterns	1-Rejected as dealing with water supply not water management
	2-Lake cleanup	Lake shore cleanup	2-Approved
Zahle		Use of bricks in toilet flushes and anti-leaking devices on house pipes	Rejected as dealing with water supply not water management

Six of the plans were approved for LRBMS support, two (Qaraoun and Zahle) were rejected as dealing with domestic water supply and not water management. Qaraoun resubmitted a different action which was approved, Zahle declined to pursue. Seven action plans were finally approved for LRBMS support.

IMPLEMENTATION

A budget was submitted by each Committee, with items being funded by the Municipality and LRBMS. The contribution of LRBMS was within the \$3,000-5,000 range and specifically covered material support such as bags, gloves, boots, garbage bins, etc. LRBMS did not get involved in the planning and implementations, letting the local Committees lead the activity.

After approval of their action plan, the six Committees of Anjar, Baalbeck, Joub Jenine, Kfarzabad, Marj, and Qaraoun proceeded to implement their activities:

Municipality	Activity	Date	Assistance from Municipality	Results
Anjar	Cleanup of banks of the Ghzayyel and irrigation canals	Sep 22 & 29	Use of municipal truck to evacuate garbage to municipal dumpsite	About 50 volunteers involved, about 5 tons garbage removed, 100 trees planted
Baalbeck	Cleanup on the Ras Al	Sep 4-5	Assistance from Municipal	About 150 volunteers, about 10 tons

	Ain River and tree planting		workers, use of municipal truck to evacuate garbage to municipal dumpsite	garbage removed, 50 trees planted, and 50 waste baskets installed along picnic areas
Joub Jenine	Use of geotextile in municipal gardens to reduce water needs	Sep 13-14	Assistance from Municipal workers, use of municipal truck	8 municipal gardens equipped with geotextile
Kfarzabad	Cleanup on the Faour River and tree planting along stream	Sep 19-21	Evacuation by truck of collected garbage to municipal dumpsite	About 20 volunteers involved, about 5 tons garbage removed, 100 trees planted, also mechanical cleanup under bridges
Marj	Cleanup along the banks of the Ghzayyel	Sep 28-29	Provision of excavator and evacuation of collected garbage to municipal dumpsite	About 50 volunteers involved, about 8 tons garbage removed, trees planted
Qaraoun	Lake shore cleanup	Oct 3-4	Rental of buses to transport volunteers, evacuation of collected garbage to municipal dumpsite	About 140 volunteers involved, about 3 tons garbage removed, 100 trees planted

Since “learning by doing” is the best awareness approach, these collaborative activities (which are common in Europe and in the US) are not only a way to raise awareness, but also to concretely solve local water issues that governmental agencies would never have the resources to tackle effectively. Will the implementers grow confident in their capacity to mobilize and replicate in the future? Only time will tell.

ملخص تنفيذي

خلفية البرنامج

"برنامج دعم ادارة حوض نهر الليطاني" هو برنامج من أربع سنوات و لتحسين ادارة مياه حوض نهر الليطاني في البقاع. وقد التزمته مجموعة الموارد الدولية بالتعاون مع المصلحة الوطنية لنهر الليطاني و تموله الوكالة الأميركية للتنمية الدولية. وابتدأ البرنامج في تشرين الأول 2009 ويتكون من أربعة عناصر: بناء القدرات المؤسسية ومراقبة المياه ومتابعتها وادارة الري وادارة الأخطار.

أسباب العمل على النشاطات التشاركية

ان معظم مشاكل المياه متأتية من الممارسات الخاطئة التي يقوم بها المزارعون و السكان والمعامل وغيرهم ممن يلوثون الموارد المائية ويهدونها. وكيف يؤمل ان تحل مشاكل المياه دون اشراكهم به. إن اهتمام مستعملي المياه وشعورهم بان المياه لهم ضرورة لإجراء تغييرات دائمة حيث ان مستعملي المياه الذين يتحملون المسؤولية و يحصلون على المعلومات اللازمة يفهمون بشكل افضل نتائج اعمالهم وبالتالي يمكنهم تبني ممارسات افضل لأستعمالات المياه. و يعتبر تبني الطرق التشاركية اساسيا لادارة مياه فعال في سبيل:

- . اشراك السكان والمزارعين والمعامل كعنصر لحل مشاكل المياه بتبني ممارسات ملائمة في استعمالات المياه
- . تأمين التحويل المناسب حيث مستعملو المياه المتفهمون للأوضاع يقبلون بسهولة اكبر دفع بدلات المياه والمياه المبتذلة.
- . تجميع الوكالات المركزية والسلطات المحلية وممثلي مستعملي المياه مع بعضهم للتخطيط واتخاذ القرارات سوية
- . تحديد وتوضيح الأدوار والمسؤوليات وبناء قدرات الأطراف كافة
- . التأكيد من اعتماد القرارات المشتركة والالتزام بها ومتابعة تنفيذها لتحسين الأداء

المقصود بالنشاطات التشاركية هو اشراك السكان غير الفاعلين ومستعملي المياه في تصميم وتخطيط وتنفيذ نشاطات عملية على مستوى محلي لحل مشاكل المياه وبالتالي جعل الأطراف المذكورين متفهمين للموضوع من خلال مقارنة "التعلم بالممارسة".

التحضير و التصميم و التخطيط

تحت اجتماعات اولية مع عشرين من بلديات حوض الأعلى لنهر الليطاني اولا مع المجالس البلدية لتفسير مفهوم نشاطات المياه التشاركية. و بناء على إهتمام المجالس المذكورة بالموضوع تحت اجتماعات متابعة لإنشاء لجان مائية برئاسة سكان محليين في ابلح وعنجر وبعبك وبر الياس و كفرزبد وجب جنين والمرج وقرعون وزحلة. وقد تم تدريب اللجان التسع في درس وتخطيط نشاطات ورفضت ثمان منها مخططات عمل

البلدية	الموضوع	النشاط المقترح	القرار
عنجر	تنظيف النهر وجمع أكياس الأسمدة	تنظيف ضفاف نهر الغزير	موافق عليه
بعلبك	تنظيف النهر	تنظيف نهر راس العين وزراعة اشجار	موافق عليه
بر الياس	تنظيف النهر	تنظيف ضفاف نهر الغزير	موافق عليه
جب جنين	فعالية استعمال المياه	استعمال الجيو نسيج في الجنائن لتخفيف الحاجة الى المياه بشكل ملموس	موافق عليه
كفرزبد	تنظيف النهر	تنظيف نهر الفاعور وزراعة اشجار	موافق عليه
المرج	تنظيف النهر	تنظيف ضفاف نهر الغزير	موافق عليه
القرعون	1-جر المياه 2-تنظيف البحيرة	منع الفائض من خزانات السطوح -تنظيف ضفاف البحيرة	رفضت باعتبارها توزيع مياه وليست ادارة مياه
زحلة		استعمال طوب في خزانات المراض ومتابعة التهريب في قساطل البيت	رفض باعتبارها يتعاطى بتوزيع مياه وليست ادارة مياه

تمت الموافقة على ستة من المخططات لمساعدتها من قبل البرنامج دعم ادارة حوض نهر الليطاني و رفض مخططات (القرعون و زحلة) باعتبارهما يتعاطيان مع توزيع المياه المنزلية و ليس مع ادارة المياه. وقد عرض القرعون نشاطا اخرًا مختلفًا جلات الموافقة عليه وامتنت زحلة عن المتابعة. وبالنهاية تحت الموافقة على مخططات العمل لمساعدتها من قبل برنامج دعم ادارة حوض نهر الليطاني.

التنفيذ

عرضت كل من اللجان كشفا يبين الينود التي تحولها البلدية و تلك التي يفترض تحويلها من قبل برنامج دعم ادارة حوض نهر الليطاني. وكانت مساهمة البرنامج دعم ادارة حوض نهر الليطاني تتراوح بين 2000 و\$5000 وتغطي بصورة خاصة المواد و المعدات المساعدة للعمل كالأكياس و الكفوف و الأحذية الخاصة وحاويات النفايات الخ...لم يتدخل برنامج دعم ادارة حوض نهر الليطاني في التخطيط والتنفيذ تارك للجان المحلية القيام بالنشاطات.

بعد الموافقة على مخططات الأعمال قامت اللجان الست ممثلة عنجر وبعلبك و جب جنين وكفرزبد والمرج والقرعون بتنفيذ النشاطات المذكورة.

البلدية	النشاط	التاريخ	المساعدة من قبل البلدية	النتائج
عنجر	تنظيف ضفاف الغزير واقنية الري	22 و 29 ايلول	تقديم كميون البلدية لنقل النفايات الى المطمر	-مشاركة حوالي 50 متطوع -نقل 5 طن من النفايات -زرع 100 شجرة
بعلبك	تنظيف راس العين وزراعة اشجار	4 و 5 ايلول	-مساعدة من قبل عمال البلدية -تقديم كميون البلدية لنقل النفايات الى المطمر	-نقل النفايات -زرع 50 شجرة -وضع 50 سلة حول مناطق النزهة
جب جنين	استعمال الجيو نسيج في	12 و 14 ايلول	-مساعدة من قبل عمال	تجهيز ثماني حديقة بلدية

الجبونسيج	البلدية -تقديم كميون البلدية		الجنائن البلدية لتخفيف الحاجة الى المياه	
كفرزبد	تنظيف نهر الفاعور وزراعة اشجار طوال النهر	19 و 21 ايلول	-نقل النفايات بالكميونات الى مطمر البلدي	-مشاركة 20 متطوع -نقل ما يقارب 5طن من النفايات -زراعة 100 شجرة -تنظيف ميكانيكي تحت الجسور
المرج	تنظيف ضفاف نهر الغزيل	28 و 29 ايلول	-تأمين جرافة -نقل النفايات التي تم جمعها الى المطمر البلدي	-مشاركة 50 متطوع -نقل حوالي 8طن من النفايات -زراعة اشجار
الفرعون	تنظيف ضفاف البحيرة	3 و 4 تشرين الأول	-استئجار سيارات لنقل المتطوعين - نقل النفايات التي تم جمعها الى المطمر البلدي	-مشاركة 140 متطوعا -نقل حوالي 3طن من النفايات -زراعة 100 شجرة

بما ان التعلم بالممارسة هو المقاربة الأفضل للتوعية فان هذه النشاطات المتشركة(وهي عادية في اوروبا و الولايات المتحدة) ليست فقط للتوعية لكنها بالفعل تحل مشاكل المياه التي لا تحل الوكالات الحكومية الموارد للقيام بها بفعالية. فهل يكتسب المنفذون الثقة بمقدراتهم للتحرك و اعادة الكرة في المستقبل؟ الوقت وحده كفيل بالإجابة عن هذا السؤال.

I. INTRODUCTION

I.1. AUTHORIZATION

International Resources Group (IRG) was contracted by USAID/Lebanon (Contract EPP-I-00-04-00024-00 Task Order No. 7) under the Integrated Water and Coastal Resources Management Indefinite Quantity Contract (IQC) II to implement the Litani River Basin Management Support (LRBMS) Program. The period for performance of the contract is September 29, 2009 to September 30, 2013.

I.2. PROGRAM OBJECTIVES

The purpose of the LRBMS Program is to set the ground for improved, more efficient and sustainable basin management at the Litani river basin through provision of technical support to the Litani River Authority and implementation of limited small scale infrastructure activities.

The LRBMS program is part of USAID's increasing support for the water sector in Lebanon. The Litani River Basin suffers the fate of many river basins around the world: increasing demands compete for limited natural resources. Groundwater over-exploitation, deforestation and overgrazing, unplanned urban sprawl, untreated wastewater effluents, and unsustainable agricultural practices contribute to environmental degradation in the form of declining water and soil quality.

Solutions do exist to reverse these trends and establish sustainable management practices. The key to successfully implement such solutions requires applying the principles of Integrated Water Resources Management (IWRM) through a single river basin authority rather than multiple agencies responsible for different aspects of water management as is the case in many countries. Fortunately, the existence of the Litani River Authority (LRA) provides a unique platform to become such an IWRM river basin authority that will mobilize stakeholders in the river basin and address these challenges in an integrated manner.

Successful implementation of LRBMS will prepare the LRA to assume the role of an integrated river basin authority upon the removal of the present legal constraints.

I.3. PROGRAM COMPONENTS

LRBMS works with national and regional institutions and stakeholders to set the ground for improved, more efficient and sustainable basin management at the Litani River basin. The LRBMS technical

assistance team provides technical services and related resources to LRA in order to improve their planning and operational performance and equip them with the necessary resources for improved river basin management.

To achieve the program objectives, LRBMS undertakes activities grouped under the following four components:

- 1) Building Capacity of LRA towards Integrated River Basin Management
- 2) Long Term Water Monitoring of the Litani River
- 3) Integrated Irrigation Management with two sub-components:
 - a. Participatory Agriculture Extension, implemented on a Pilot Area, the West Bekaa Irrigation Management Project
 - b. Machghara Plain Irrigation Plan
- 4) Risk Management with two sub-components:
 - a. Qaraoun Dam Monitoring System
 - b. Litani River Flood Management Model

I.4. PURPOSE AND CONTENTS OF THE REPORT

This report presents the planning, and support to the implementation of participatory/collaborative activities by groups of residents in the upper Litani River Basin. Since most water issues are due to improper water uses (pollutions and wastages), a major component of the IRBM approach is to raise awareness of residents, farmers, businesses, and other water users to build stewardship and promote more responsible water use practices.

After the current introduction, this report includes three chapters:

- Chapter 2 Rationale for collaborative activities;
- Chapter 3 describes the mobilization of local residents, the design and the planning of activities;
- Chapter 4 presents the actual implementation of local collaborative activities; and
- Chapter 5 provides lessons learned and suggestions for continuing the mobilization.

2. RATIONALE FOR COLLABORATIVE ACTIVITIES

2.1. CAUSES OF WATER ISSUES

Most water issues are due to improper water use behaviors by farmers, residents, factories and others who pollute and waste water resources. How can one hope to solve the water issue without involving them?

The old school engineering approach of building structures and increasing the water supply is a lost battle when lack of proper operation and maintenance of structures and networks, combined with inadequate water uses (due to ignorance and individualism) waste and pollute most of the waters mobilized. Water users' awareness and ownership is necessary to achieve lasting changes since responsible and informed users understand the consequences of their actions and thus can adopt better water use practices:

- Only a person who has spent time cleaning garbage from the bank of a river or the side of a road can understand how much garbage does one generate and how damaging littering can be for the environment and ultimately for public health.
- A person who has seen wastewater pipes flowing into a river turned into a sewer can be more easily convinced that paying for wastewater treatment is everyone's responsibility).

2.2. BENEFITS FROM PARTICIPATION

Participation is about residents and water users being:

- Listened to so that their actual needs and concerns are properly understood;
- Informed at planning stage about the issue being addressed;
- Consulted when different/alternative solutions are considered and compared;
- Presented with the final decision/ project and its justification;
- Updated during project implementation.

Involved water users are much more likely to endorse and contribute to water projects and activities, and more willing to fund them, thus making the impacts much larger and the job of water managers much easier.

The throughout adoption of participatory processes is essential for effective water management, in order to:

- Involve residents, farmers, factories as actors solving water issues by adopting sound water use practices;
- Ensure proper funding as informed water users more easily accept paying water and wastewater fees;
- Bring together central agencies, local authorities, and water user representatives to plan and decide collaboratively;
- Clarify roles and responsibilities, and build the capacity of all parties; and
- Ensure buy-in and commitment to common decisions; and monitor implementation to improve performance.

2.3. DEFINITION OF COLLABORATIVE ACTIVITIES

2.3.1. CONCEPT

Most citizens, in Lebanon and elsewhere, have developed a penchant for calling upon the government to intervene when faced with an issue. “What is the government doing?” is meant as a criticism, implying that the issue at hand is a direct consequence of a supposed lethargy/lack of action by the government (seen as a big monolithic institution in charge of all public affairs). This passive attitude is particularly developed in non-democratic countries where initiative and collaborative action is strongly discouraged by the government.

The idea of collaborative activities is to involve passive residents and water users in the design, planning, and implementation of concrete local scale activities solving water issues, and thus turn them into informed actors through this “learning by doing” approach.

2.3.2. EXAMPLES

Indicative examples of activities are, by theme:

- Solid waste pollution:
 - River/canal clean up activities (by residents), prevention of garbage dumping
 - Simple incentive schemes to promote recycling/sorting
 - Small construction works to improve dumpsites
- Domestic sewage pollution:
 - Promotion and installation of grey water recycling systems

- Local construction works on the sewage network
- Industrial pollution/wastage:
 - Dialogue between municipality/community and polluting factory to convince factory owner to study and install pre-treatment for industrial sewage or recycling/proper disposing of solid waste
 - Produce and advertize list of most polluting factories and/or quarries
 - Identify and provide positive coverage to green factory
 - Identify specific factories which are heavy water users (e.g. bottling factories), question authorities and factories on actual withdrawals compared to authorizations
- Agriculture:
 - Simple incentive schemes to promote soil analysis and prevent fertilizer over-use
 - Review of functioning of local Water Committees (irrigation), definition of simple allocation/pricing rules to better use irrigation water and solve conflicts
- Flood risk mitigation:
 - Annual (Fall) riverbed maintenance to maintain conveyance capacity of channels and sluices (e.g. removing irrigation diversion dams, garbage, etc.)
 - Small construction works on riverbanks to prevent riverbed obstructions
- Urban planning/aesthetics:
 - Development of walking paths along waterways
 - Partnership with LRA to define floodable areas and better plan urban development
 - Simple measures (fencing and posting) to protect springs and water supply sources from contamination from garbage, livestock, etc.
- Awareness/information:
 - Local monitoring of water quality in waterways
 - Annual review (per municipality) of garbage collection & disposal processes
 - Annual assessment of the operating status of wastewater treatment plants
 - Annual update on the level (per municipality) of connection to sewage network
 - Trainings/awareness on water saving and pollution prevention/mitigation
 - Prices to schools/factories/municipalities for water initiatives
 - School/youth competitions around water

3. MOBILIZATION, DESIGN AND PLANNING

3.1. CONTEXT

LRBMS sponsored a first collaborative activity in Sept 2011 with the cleanup of the Ghzayyel River in Anjar. This was achieved through a local NGO (Operation Big Blue). The main lesson learned was that while mobilization of residents was feasible, heavy support and hand holding made it top-down and unsustainable.

This activity was repeated in September 2012, with the Municipality taking the lead, with some logistical support from LRBMS staff. This approach proved to be less organized and rigorous, but more promising in terms of capacity-building and sustainability, as there was real engagement of the local leaders (chiefly Municipality Board Members) and better ownership by the volunteer participants

3.2. MOBILIZATION

Initial meetings were held in April 2013 in about 20 municipalities in the upper Litani River Basin, first with the Municipality Board to explain the concept of water collaborative activities. Based on interest, follow-up meetings were held to form a water committee with leading local residents.

The establishment of such a committee was achieved in Ablah, Anjar, Baalbeck, Bar Elias, Kfarzabad, Joub Jenine, Marj, and Zahle, but failed in Fourzol and Kamed Loz. The Municipality of Qaraoun also formed a committee at later stage, thus resulting in nine Municipalities being mobilized with a water committee established in each.

3.3. DESIGN AND PLANNING

The nine committees were trained in the design and planning of activities. Several meetings were held by each Committee, with and without facilitation by LRBMS (facilitation was usually required to get actual progress, but absence of facilitation was also attempted).

Three workshops were held in May 2013 in “Bar



LRBMS-SUPPORT TO COLLABORATIVE ACTIVITIES

Elias” scout center, “Al Marj” municipality and “Zahle” municipality :

- The first workshop was meant to first gather potential committee members and raise their awareness regarding water issues in the Litani River Basin.



- The second workshop was meant to orient the committees in their planning. The committees worked in groups in order to identify their water problems and to prioritize them. The identified water issues visions varied from environmental education, to eco-tourism, to clean and sustainable rivers, to agro-tourism, to clean environment.
- During the third workshop, the committees were trained on writing project’s concept notes and worked in groups to develop action plans for their projects’ ideas.



While examples (see 2.3.2) were provided, it was also clearly explained that would only qualify activities that:

- Deal with water management issues, pollution or water use efficiency;
- Are led by local residents, not simply the Municipality;
- Involves volunteers among local residents.

Eight committees submitted actual action plans, one committee (Ablah) failed to do so despite several reminders from LRBMS. The eight action plans proposed the following activities:

Municipality	Theme	Proposed activity	Decision
Anjar	River cleanup and collection of fertilizer bags	Cleanup along the banks of the Ghzayyel	Approved
Baalbeck	River cleanup	Cleanup on the Ras Al Ain River and tree planting	Approved
Bar Elias	River cleanup	Cleanup along the banks of the Ghzayyel	Approved
Joub Jenine	Water use efficiency	Use of geotextile in municipal gardens to reduce significantly water needs	Approved
Kfarzabad	River cleanup	Cleanup on the Faour River and tree planting	Approved
Marj	River cleanup	Cleanup along the banks of the Ghzayyel	Approved
Qaraoun	1-Water Supply	Overflow controls on roof cisterns	1-Rejected as dealing with water supply not water management
	2-Lake cleanup	Lake shore cleanup	2-Approved
Zahle		Use of bricks in toilet flushes and anti-leaking devices on house pipes	Rejected as dealing with water supply not water management

Six of the plans were approved for LRBMS support, two (Qaraoun and Zahle) were rejected as dealing with domestic water supply and not water management. Qaraoun resubmitted a different action which was approved, Zahle declined to pursue. Seven action plans were finally approved for LRBMS support.

4. IMPLEMENTATION

4.1. SUPPORT FROM LRBMS

A budget was submitted by each Committee, with items being funded by the Municipality and LRBMS. The contribution of LRBMS was within the \$3,000-5,000 range and specifically covered material support such as bags, gloves, boots, garbage bins, etc. LRBMS did not get involved in the planning and implementations, letting the local Committees lead the activity.

4.2. ACTUAL IMPLEMENTATION

After approval of their action plan, the six Committees of Anjar, Baalbeck, Joub Jenine, Kfarzabad, Marj, and Qaraoun proceeded to implement their activities:

Municipality	Activity	Date	Assistance from Municipality	Results
Anjar	Cleanup of banks of the Ghzayel and irrigation canals	Sep 22 & 29	Use of municipal truck to evacuate garbage to municipal dumpsite	About 50 volunteers involved, about 5 tons garbage removed, 100 trees planted
Baalbeck	Cleanup on the Ras Al Ain River and tree planting	Sep 4-5	Assistance from Municipal workers, use of municipal truck to evacuate garbage to municipal dumpsite	About 150 volunteers, about 10 tons garbage removed, 50 trees planted, and 50 waste baskets installed along picnic areas
Joub Jenine	Use of geotextile in municipal gardens to reduce water needs	Sep 13-14	Assistance from Municipal workers, use of municipal truck	8 municipal gardens equipped with geotextile
Kfarzabad	Cleanup on the Faour River and tree planting along stream	Sep 19-21	Evacuation by truck of collected garbage to municipal dumpsite	About 20 volunteers involved, about 5 tons garbage removed, 100 trees planted, also mechanical cleanup under bridges
Marj	Cleanup along the banks of the Ghzayel	Sep 28-29	Provision of excavator and evacuation of collected garbage to municipal dumpsite	About 50 volunteers involved, about 8 tons garbage removed, trees planted
Qaraoun	Lake shore cleanup	Oct 3-4	Rental of buses to transport volunteers, evacuation of collected garbage to municipal dumpsite	About 140 volunteers involved, about 3 tons garbage removed, 100 trees planted

4.3. OWNERSHIP AND RETENTION RATE

LRBMS supported the entire process, but did not want to hold hands too much, like in pilot projects that always show good results, but often prove to be unsustainable and non-replicable.

From an initial contact with around 20 Municipalities this resulting in only nine committees being formed with enough local leadership, only eight action plans being submitted, only seven being approved and only six being implemented. Will the implementers grow confident in their capacity to mobilize and replicate in the future? Only time will tell.

One should note that the collaboration with Anjar is now in its third year, and there are good indications that the Municipality intends to continue this as an annual river cleanup on the theme of “We own the Ghzayyel.”

4.4. CREDITS TO USAID AND BRANDING

Support from USAID was clearly explained during all activities. The only lasting items that could have been branded with USAID stickers were the garbage bins installed in Baalbeck. Due to the specific political sensibility in Baalbeck, branding was dispensed with, as it would have probably resulted in vandalism of the bins.

5. FOLLOW-UP

As mentioned earlier, involving water users is critical as they are the ones wasting and polluting water resources. Only informed and accountable residents, farmers, businesses, factories will adopt better water use practices and thus drastically reduce the impact they have on their environment.

Since “learning by doing” is the best awareness approach, these collaborative activities (which are common in Europe and in the US) are not only a way to raise awareness, but also to concretely solve local water issues that governmental agencies would never have the resources to tackle effectively.

USAID recently launched a program called BALADI which actively encourages Municipalities and local communities to mobilize around concrete activities. Several Lake Qaraoun Municipalities submitted a grant request to establish and operate a water awareness center (possibly called “Lake Qaraoun House”). This request has been approved and should thus received funding and support. LRBMS will strive in its final months to support this center so that it not only raises awareness of residents, children and others, but also encourages them to mobilize and design, plan and carry out water collaborative activities.

ANNEXES

ANNEX 1 – ENVIRONMENTAL/WATER COMMITTEES

ANNEX 2 - ACTIONS PLANS

ANNEX 3 – IMPLEMENTATION PICTURES

ANNEX I – MUNICIPAL COMMITTEES

Main Contact list

VILLAGE	COORDINATOR	PHONE NUMBER	TOTAL MEMBER	MALE	FEMALE
JEBJANIN	MOUSSA ESTEPHAN	03-238233	15	10	5
BAR ELIAS	MOHAMAD SAROUT	70-600616	6	3	3
KFARZABAD	AHMAD TAAAYMEH	03-013752	8	2	6
AL MARJ	ALI HAMDAN	76-095499	8	8	-
ABLAH	NOUR MHANNA	71-124998	11	3	8
AANJAR	LENA ASHKARIAN	03-219163	7	5	2
ZAHLE	ELISE TAMER	03322181	10	6	4
KERAOUN	YAHYA DAHER	71150462	8	5	3
BAALBAK	OMAR	034117704			

Ablah committee

المهنة	البريد الالكتروني	الهاتف	العمر	الاسم الثلاثي
محاسب	TONIKARKAFI@YAHOO.COM	70710914	23 سنة	طوني جورج القرقفي
مهندس	TONI.GERGES@LIVE.COM	70997040	22 سنة	طوني جوزيف جرجس
مهندس مدني	GEORGEJABBOUR@HOTMAIL.COM	70206942	22 سنة	جورج يوسف جبور
مهندس زراعي	MHANNA.NOUR@HOTMAIL.COM	71124998	22 سنة	نور رزق مهنا
نائب رئيس بلدية	RABIH.ABOUTANOSS@HOT.COM	03716040	46 سنة	ربيع ملحم ابو طنوس
مهندس زراعي	HICHAM.SEMAAN@HOT.COM	71926575	21 سنة	هشام سمعان
مهندس اتصالات	ELIE-THE-GREAT4@HOT.COM	03930116	23 سنة	إيلي ربيع ابو طانوس
ادارة اعمال دولية	SASSINE-MAKHOUL1@HOT.COM	70139910	21 سنة	ساسين مارون مخول
مهندس	GMBSAIBES@HOTMAIL.COM	71301831	19 سنة	جورج ملحم بصيبص
اقتصاد	STEF-1292@HOTMAIL.COM	76965838	13 سنة	ستيفاني ملحم بصيبص

تربية	REEM.MHANNA@LIVE.COM	71379838	20 سنة	ريم رزق مهنا

Anjar committee

المهنة	البريد الالكتروني	الهاتف	العمر	الاسم الثلاثي
مديرة حضنة	LENAASHKARIAN@HOTMAIL.COM	03219163	40 سنة	لينا شاهه اشكانيان
اداري	MRRAS@CYBERIA.NET.LB	71262610	57 سنة	سروب انترانيك كندر جيان
منسق بلدي	KAPO-ATANIAN@HOTMAIL.COM	70145863	48 سنة	كبريال اتمان
منسق بلدي	SARKIS-TCH@HOTMAIL.COM	70132558	33 سنة	سركيس تشاشانيان
صاحب مطعم	VAHESKAJAIN@HOTMAIL.COM	03810340	45 سنة	فاهه بارسيف سكا جيان
معلمة	ZEPUR-T@HOTMAIL.COM	03164055	32 سنة	زبيور طنبريان
		70832695	26 سنة	هابير كرديان

Bar Elias committee

المهنة	البريد الالكتروني	الهاتف	العمر	الاسم الثلاثي
استاذ	CHEFHOUAMO11@HOTMAIL.COM	70759774	31 سنة	حسام محمد مراد
مديرة مؤسسة	AMANL.HOUSHAINI@GMAIL.COM	03397091	26 سنة	اماني ناصر الحشيمي
		71599863	44 سنة	ناجي احمد رحال سلوم
رجل اعمال	SAROUT.64@HOTMAIL.COM	70600616	48 سنة	محمد رشدي الساروط
موظفة بلدية	ABISSO@HOTMAIL.COM	70475282	50 سنة	باسمة العرب
كاتبة بلدية		70718813	23 سنة	سماح عبد الرحيم

Jeb Janine committee

المهنة	البريد الالكتروني	الهاتف	العمر	الاسم الثلاثي
مدرسة	HOT.COM@DAWOUD.FAYROUZ	03902264	50 سنة	فيروز داود داود
مدرسة	RANADASSOUKI@COM.TMAILHO	70138770	36 سنة	رنا عبد الكريم الدسوقي
عمل حر	KHODORHAYMOUR@HOTMAIL.COM	03064529	43 سنة	خضر خليل حيمور
عمل حر		03238233	43 سنة	موسى جوزف اسطفان
مدرس	NIZAR-DIB@YAHOO.COM	03444529	46 سنة	نزار ديب عبد الحلم
محامي		03836787	75 سنة	صالح الدسوقي
مدرس	AJRAM-M@HOTMAIL.COM	71738891	48 سنة	محمد علي عجرم
موظف		03018133	39 سنة	احمد خالد عجرم
طبيب	DRMR74@HOTMAIL.COM	03849867	38 سنة	محمد حسين رحال
		03424058	63 سنة	خالد شرانق
اخصائية تغذية	FLAVIAGHATTAS@HOTMAIL.COM	03797680	27 سنة	فلافيا غطاس
ربة منزل	LADYMARINA44@HOTMAIL.COM	76069138	46 سنة	ماري جوزف بركات
		03868426		خالد الحاج حسن
		70388969		الفت حنا

موظف	GEO-ABD@HOTMAIL.COM	03097776	37 سنة	جورج عبدالله
------	--	----------	--------	--------------

Kafar Zabad Committee

الاسم الثلاثي	العمر	المهنة	الهاتف	البريد الالكتروني
احمد طعمي الطعيبي	45 سنة	عضو بلدي	03013752	
هود نواف الطعيمة	45 سنة	مدير مدرسة	03001358	Houd taaymi@hotmail.com
محمد جميل مجيد	63 سنة	مزارع	08925112	Aliamajid@hotmail.com
ربيع احمد الحشيش	31 سنة	مزارع	03694357	
ابراهيم نواف الطعيبي	31 سنة	تاجر	03455194	
ديالا جهاد الخطيب	15 سنة	طالبة	71310697	Labelle dodo@hotmail.com
ايمان عبد الجليل الخطيب	15 سنة	طالبة	03508152	Mimi-5atib@hotmail.com
رشاد شامل الخطيب	22 سنة	طراش	70694874	Rachadlkhatib2010@live.com

Marj committee

الاسم الثلاثي	العمر	الهاتف	البريد الالكتروني	المهنة
اسامة محمد ابراهيم	35 سنة	03284478	Osama221077@hotmail.com	استاذ ثانوي
زياد حسن جراح	21 سنة	76459565		صناعات غذائية
امين العوط	40 سنة	03521862		اعمال حرة
خالد درويش	27 سنة	03628125		
محمد جراح	21 سنة	70032163	St-ganza@hotmail.com	اختصاص تغذية
طارق جراح	23 سنة	03488463	Jarrah-73@hotmail.com	شيف
اسامة ابو زيد	24 سنة	70081637	Osama.abouzeid@hotmail.com	مهندس
ايداد يوسف صالح	36 سنة	03825483	almarjawy@hotmail.com	موظف

Qaraoun committee

NASSER HAYMOUR	03/142398
MOUEIN YASSIN	03/799167
MOUHAMAD OUMAYSS	03/684413
MOUHAMAD AAZANKI	03/889552
ISSAM DIB	70/677259
FATIMA HAMOUD	03/007029
AALA AL HALAK	76/6001227
ALI TARIFF	03/814929

YEHYA DAHER7	71/150462
--------------	-----------

Zahle committee

المهنة	البريد الإلكتروني	الهاتف	العمر	الاسم الثلاثي
محامي الاستئناف عضو بلدية	TAMERELISE@HOTMAIL.COM	03-322181		اليز جورج تامر
مدير متقاعد ونائب رئيس جمعية بيئية		03-915302		رياض جرجس نبهان
مدرسة رياضة		03-714649		رنده جان ليان
مدير مدرسة		03-867616		جورج نجيب جريج
موظف ورئيس اللبو زحلة		03-828090		وليد حنا الفحل
طبيب اسنان وعضو بلدي		03-871872		سمير ملو
محامي		03-193711		يسيلين طوني ابو بطرس
محامي الاستئناف وعضو بلدية		03-222758		ميشال بالش
مهندس وعضو بلدية		03-688224		حبيب قرطاس
عضو بلدية		03-447445		مهي الفاصوف

ANNEX 2 - ACTIONS PLANS (as presented by Committees)

Anjar Activity

Description:

A river clean-up campaign

Objective:

Put an end to the water pollution in the River and preserve the soil from toxic substances

Partners:

- Municipality of Anjar
- Environmental Committee
- LRBMS

Roles:

- 1- The Municipality:
 - Co-funding the river clean-up campaign
- 2- Environmental Committee:
 - Continual organization
 - Cleaning the River
- 3- LRBMS: financing and supervising

A brief explanation about the project:

The municipality of Anjar considers the environment top of its priorities. They were the first to clean the river's pathway, and now with the participation of the Environmental Committee, we will clean the river and make this project an annual commitment undertaken by the municipality every year.

Continuity of the project:

The municipality will continue the project, and cleaning up the river will become an annual tradition carried out by the municipality which will budget money for it every year.

The desired results:

- Cleaning the river with the help of volunteers

Baalbek Activity

Description:

A clean-up campaign for the Ras Al-Ain River with the installation of trash baskets and awareness signboards on its sides.

Objective:

Put an end to the pollution of the river and create green spaces along its borders.

Partners:

- Municipality of Baalbek
- Environmental Committee
- LRBMS

Roles:

- 1- The Municipality:
 - Co-funding the river clean-up campaign
 - Installing the Environmental Awareness signboards
 - Installing trash baskets
- 2- Environmental Committee:
 - The awareness signboards content
 - Cleaning the river
- 3- LRBMS: financing and supervising

A brief explanation about the project:

Ras Al-Ain is one of the most popular touristic sites in Baalbek, visited frequently by people from different areas, because of the spacious green land and wonderful view during the summer.

With the increasing number of visitors and now displaced Syrians, the course of the river became dirty although the municipality is always working on cleaning up the area near the place. Since cleaning the pathway of the river is sort of difficult, we have decided to cooperate with them to clean up the river with the installation of wastepaper baskets on an area of 400 meters and placing awareness signboards to reduce the dirt being thrown into the river.

Continuity of the project:

Since the municipality is the one usually cleaning the area, they're the ones who will follow up on collecting the garbage from trash baskets and on the cleanliness of the river.

The desired results:

- Cleaning the pathway for the first time in 5 years

- Visitors can benefit from the trash baskets on both sides of the river, which affect positively the cleanliness of the place
- Environmental awareness signboards that will raise awareness and reflect the cultural face of the town

Bar Elias Activity

Description:

- A clean-up campaign of the Ghouzayel River & planting trees on its borders
- An advocacy campaign to maintain the cleanliness of the river.

Objective:

To preserve water resources and create green spaces.

Partners:

- Municipality of Bar Elias
- Environmental Committee
- LRBMS

Roles:

- 1- The Municipality:
 - Co-funding the river clean-up campaign
 - Fining the violators and polluters of the river
- 2- Environmental Committee:
 - Awareness
 - Cleaning the River
 - Agricultural support
- 3- LRBMS: financing and supervising

A brief explanation about the project:

The Ghouzayel River, which passes in the territory of Bar Elias on an area of about 4 km, is exposed to a lot of abusive acts and negligence by officials and residents. It has become a garbage dump and an exit for sanitation.

This project will be the beginning of our work with cleaning the river and maintaining it through planting trees. Instead of being filled with garbage and dirt, this area would become a place for picnics and a playing area for families.

The municipality will contribute to the project and will maintain it through fining polluters the fact that will prevent infringements and waste disposal in the river.

Continuity of the project:

The Environmental Committee will be the supervising eye on the cleanliness of the river and we will work, with the help of the municipality, to clean it every year on condition that the municipality will prevent infringements and won't allow people to throw garbage in it.

The desired results:

- Noticeable change in the cleanliness of the river
- Announce the municipality's role in maintaining the cleanliness of the river

Jeb Jennine Activity

Description:

Covering the ground of a public garden with geo-textile to prevent the growth of wild herbs and to maintain water supply efficiently.

Objective:

To preserve the green space and to save water.

Partners:

- Municipality of Jeb Jennine
- Environmental Committee
- LRBMS

Roles:

- The Municipality: continuation of the project on the long run and maintaining it
- Environmental Committee: implementing the job
- LRBMS: financing and supervising

A brief explanation about the project:

The municipality is facing a problem in taking care of the public parks, in terms of cleaning the ground from wild herbs and in terms of irrigation, especially since the cost of these two issues is expensive.

As a result, we are mentioning the project of covering the Gardens' grounds with geo-textile that is designed for this purpose in order to prevent the existence of wild grass.

In addition, we will be economizing the amount of water used in irrigation (about 250 barrels per week).

Continuity of the project:

The municipality will be responsible for following up on the project and its maintenance when needed.

The desired results:

- To maintain the green space.
- To economize in the amount of water used to irrigate the gardens.
- To economize in the cost of labor.

Kafar Zabad Activity

Description:

- Clean-up Campaign for Al-Faour River and planting trees on its sides
- Organizing campaign with the Terbol Municipality to prevent littering in the river

Objective:

Put an end to the pollution of the river and create green spaces along its borders.

Partners:

- Municipality of Kfar Zabad
- Environmental Committee
- LRBMS

Roles:

- 1- The Municipality:
 - Co-funding the river clean-up campaign.
 - Coordinating with Terbol municipality
 - Maintaining the trees later on
- 2- Environmental Committee:
 - Awareness
 - Cleaning the river
 - Agricultural support
- 3- LRBMS: financing and supervising

A brief explanation about the project:

Al-Faour River which passes on the outskirts of the town of Kafar Zabad narrows down its course at the bridge causing a concentration of waste & plastic bags that are thrown from the fields next to the river. Our idea involves cleaning the river and planting trees on its side and alerting residents living near the river and the municipality of Terbol not to throw waste in it.

Continuity of the project:

The municipality of Kafar Zabad will follow up on the project via the Environmental committee and is working on maintaining it and including cleaning expenses in its annual yearly budget.

The desired results:

- Noticeable change in the cleanliness of the river
- Plant trees next to it

Marj Activity

Description:

- An advocacy campaign to find solutions for the Litani River pollution issue.
- An awareness campaign targeting farmers & students.
- A river clean-up campaign.

Objective:

To preserve water resources.

Partners:

- Municipality of Al-Marj
- Environmental Committee
- LRBMS

Roles:

- 1- The Municipality:
 - Co-funding the river clean-up campaign
 - Fining the violators and polluters of the river
- 2- Environmental Committee:
 - Awareness
 - Cleaning the river
 - Advocacy
- 3- LRBMS: financing and supervising

A brief explanation about the project:

The Ghouzayel River, which was considered a rich source for the region, has become a source of contamination, bad smell, and nuisance to residents along its path.

The municipality is not taking any actions or fining violators and polluters. Facing this fact, we are planning to move & intervene to prevent the continuation of this issue and reduce its threat.

Our focus will be on the residents, the municipality, and the community as well as the schools. The first step will be cleaning the river.

Continuity of the project:

We, as an environmental committee, will work on maintaining a clean and protected river with the support of the municipality, which is our only official reference and support.

Desired results:

- A clean river.
- A civil society that supports the municipal community.
- A Municipality responsible for following up on the river's cleanliness.
- An existing environmental committee that demands anything upon shortage.

Karaoun Activity:

Description:

- A cleaning campaign of the banks of the lake& planting trees on its Borders
- Pressuring campaign on officials to maintain the cleanliness of the river.

Objective:

To maintain the water resources and create green spaces.

Partners:

- The Municipality
- Environmental Committee
- IRG

Roles:

- 1- The Municipality:
 - Participating in the expenses of cleaning the river.
 - Writing down fines for offenders that will pollute banks of lake
- 2- Environmental Committee:
 - Assembling volunteers
 - Cleaning up bank of the lake
 - Planting trees
- 3- IRG: Financing and supervising

A brief explanation about the project:

The bank of the lake in Karaoun is the place where it collects dirt litany river , is exposed to a lot of abusive acts and negligence by officials and residents. It has become a garbage dump and an exit for sanitation.

This project will be the beginning of our work of cleaning up banks of the lake and maintaining it with the planting of trees. Instead of being filled up by garbage and dirt, this area would become a place for picnics and a playing area for families.

The municipality will contribute to the project and will maintain it through creating fines that prevent infringements and waste disposal in the river.

Continuity of the project:

The Environmental Committee will be the supervising eye on the cleanliness of the river and we will work, with the help of the municipality, to clean it every year on condition that the municipality will prevent infringements and won't allow people to throw dirt in it.

Desired results:

- Noticeable change in the cleanliness of bank of the lake
- Announce the municipality's role in maintaining the cleanliness of bank of the lake

ANNEX 3 – IMPLEMENTATION PICTURES

Anjar Cleanup

Before:



After:





Baalbeck Cleanup







Joub Jenine public garden activity

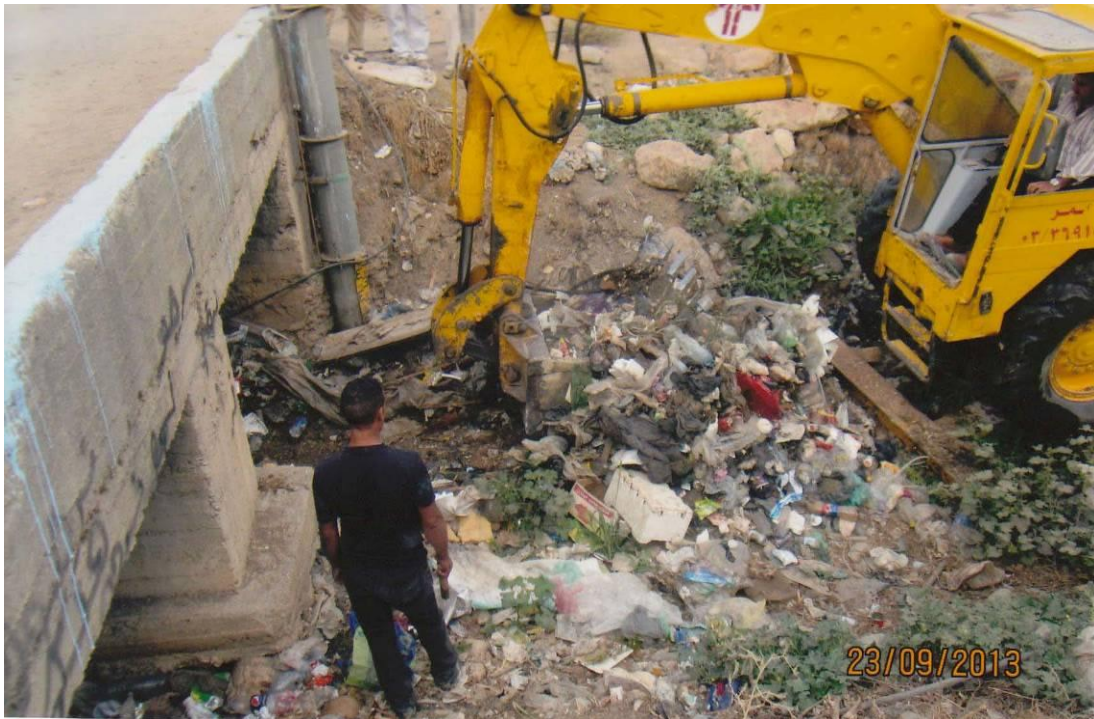


Kfarzabad Cleanup









Marj Cleanup











Qaraoun Cleanup

Before:



After:





U.S. Agency for International Development

1300 Pennsylvania Avenue, NW

Washington, DC 20523

Tel: (202) 712-0000

Fax: (202) 216-3524

www.usaid.gov